Claim 1 (amended). An electro-optical module for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis;

at least one optical component, said optical component selected from the group consisting of a transmitting component providing light that is injected into said optical waveguide, and a detecting component that receives and detects light output from said optical waveguide;

a first glass ferrule; and

a second glass ferrule;

said optical waveguide forming at least two optical waveguide sections;

said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent said inclined end surface of said second optical waveguide section;

said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

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outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said first glass ferrule receiving said first optical waveguide section and having an end surface that is inclined to correspond to said inclined end surface of said first optical waveguide section, said first glass ferrule being transparent for the light of the plurality of the optical channels; and

said second glass ferrule receiving said second optical waveguide section and having an end surface that is inclined to correspond to said inclined end surface of said second optical waveguide section, said second glass ferrule being transparent for the light of the plurality of the optical channels.

Claim 7 (amended). The module according to claim 1, comprising:

a mounting tube receiving said first glass ferrule, said first optical waveguide section, said second glass ferrule, and said second optical waveguide section;

said mounting tube axially positioning said first glass ferrule with respect to said second glass ferrule.

Claim 13 (amended). The module according to claim 7, comprising:

a holder;

said mounting tube formed with a fixing structure for fixing said mounting tube on said holder.

Claim 15 (amended). An electro-optical module for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis;

at least one optical component, said optical component selected from the group consisting of a transmitting component providing light that is injected into said optical waveguide, and a detecting component that receives and detects light output from said optical waveguide; and

immersion means;

said optical waveguide forming at least two optical waveguide sections;

said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent

said inclined end surface of said second optical waveguide section;

said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

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outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said first optical waveguide section and said second optical waveguide section defining a gap therebetween;

said immersion means filling said gap and having a matched refractive index.

Claim 16 (amended). The module according to claim 15, wherein said mounting tube is formed with a radial opening for insertion of an immersion means, said radial opening formed

adjacent said first optical waveguide section and said second optical waveguide section.

Claim 17 (amended). The module according to claim 1, comprising:

a plurality of waveguide sections having inclined surfaces, said plurality of said waveguide sections including said at least two waveguide sections;

said at least one optical component including a plurality of optical components that are each selected from the group consisting of a transmitting component providing light that is injected into said optical waveguide, and a detecting component that receives and detects light output from said optical waveguide;

said plurality of said optical components being sequentially located;

each one of said plurality of said optical components being associated with an inclined surface selected from the group consisting of said inclined surfaces of said plurality of said waveguide sections.

Claim 19 (amended). The module according to claim 1, wherein said second optical waveguide section has an optical axis and said optical component has an optical axis that runs esentially perpendicular to the optical axis of said second optical waveguide section.

Claim 20 (amended). An electro-optical module for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis;

at least one optical component, said optical component selected from the group consisting of a transmitting component providing light that is injected into said optical waveguide, and a detecting component that receives and detects light output from said optical waveguide; and

a TO-can holding said optical component;

said optical waveguide forming at least two optical waveguide sections;

said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent said inclined end surface of said second optical waveguide section;

said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

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injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide.

Claim 25 (amended). An electro-optical module for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis; and

at least one optical component, said optical component selected from the group consisting of a transmitting component providing light that is injected into said optical waveguide, and a detecting component that receives and detects light output from said optical waveguide;

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said optical waveguide forming at least two optical waveguide sections;

said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent said inclined end surface of said second optical waveguide section;

said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

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outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said second optical waveguide section having a core;

said first optical waveguide section being adjacent said second optical waveguide section and having a core that is larger than said core of said second waveguide section.

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Claim 29 (amended). An electro-optical module for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis; and

at least one optical component, said optical component selected from the group consisting of a transmitting component providing light that is injected into said optical waveguide, and a detecting component that receives and detects light output from said optical waveguide;

said optical waveguide forming at least two optical waveguide sections;

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said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent said inclined end surface of said second optical waveguide section;

said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

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outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said inclined surface of said first waveguide section and said inclined end surface of said second waveguide section being adjacent and forming a beam splitter;

said beam splitter being a 50/50 beam splitter.

Please add the following new claims:

--30. An electro-optical module for transmitting and/or receiving light of a plurality of optical data channels, comprising:

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an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis; and

a plurality of optical components that are each selected from the group consisting of a transmitting component providing light that is injected into said optical waveguide, and a detecting component that receives and detects light output from said optical waveguide;

said optical waveguide forming a plurality of optical waveguide sections;

each one of said plurality of optical waveguide sections having an inclined end surface;

Q8 said inclined end surface of a first one of said plurality of said optical waveguide sections being positioned along the optical axis and adjacent said inclined end surface of a second one of said plurality of said optical waveguide sections;

said inclined end surface of said second one of said plurality of said optical waveguide sections configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface

of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said plurality of said optical components being sequentially located;

each one of said plurality of said optical components being associated with an inclined surface of one of said plurality of said waveguide sections;

each one of said plurality of said optical waveguide sections having an optical axis;

each one of said plurality of said optical components having an optical axis running essentially perpendicular to said optical axis of an associated one of said plurality of said waveguide sections.

31. An optical waveguide structure for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis;

a first glass ferrule; and

a second glass ferrule;

said optical waveguide forming at least two optical waveguide sections;

18 said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent said inclined end surface of said second optical waveguide section;

said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said first glass ferrule receiving said first optical waveguide section and having an end surface that is inclined to correspond to said inclined end surface of said first optical waveguide section, said first glass ferrule being transparent for the light of the plurality of the optical channels; and

said second glass ferrule receiving said second optical waveguide section and having an end surface that is inclined to correspond to said inclined end surface of said second optical waveguide section, said second glass ferrule being transparent for the light of the plurality of the optical channels.

32. An optical waveguide structure for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis; and

immersion means;

said optical waveguide forming at least two optical waveguide sections;

said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent said inclined end surface of said second optical waveguide section;

said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said first optical waveguide section and said second optical waveguide section defining a gap therebetween;

said immersion means filling said gap and having a matched refractive index.

33. An optical waveguide structure for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis;

said optical waveguide forming at least two optical waveguide sections;

said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent said inclined end surface of said second optical waveguide section;

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said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said second optical waveguide section having a core;

said first optical waveguide section being adjacent said second optical waveguide section and having a core that is larger than said core of said second waveguide section.

34. An optical waveguide structure for transmitting and/or receiving light of a plurality of optical data channels, comprising:

an optical waveguide for carrying light of a plurality of optical data channels, said optical waveguide having an optical axis;

said optical waveguide forming at least two optical waveguide sections;

said at least two optical waveguide sections including a first optical waveguide section having an inclined end surface and a second optical waveguide section having an inclined end surface;

said inclined end surface of said first optical waveguide section being positioned along the optical axis and adjacent

said inclined end surface of said second optical waveguide section;

said inclined end surface of said second optical waveguide section configured to perform a function selected from the group consisting of:

injecting light for one of said plurality of said optical data channels into said optical waveguide when the injected light is provided to said inclined end surface of said second optical waveguide section at an angle relative to the optical axis of said waveguide, and

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outputting light of one of said plurality of said optical data channels from said optical waveguide at an angle relative to the optical axis of said waveguide;

said inclined surface of said first waveguide section and said inclined end surface of said second waveguide section being adjacent and forming a beam splitter;

said beam splitter being a 50/50 beam splitter. --